

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF OHIO  
EASTERN DIVISION

<b>OHIO PUBLIC EMPLOYEES</b>	:
<b>RETIREMENT SYSTEM, On Behalf of</b>	:
<b>Itself and all Others Similarly Situated,</b>	: Civil Action No. 4:08-cv-160
<b>Plaintiff,</b>	:
	: Judge Benita Y. Pearson
<b>vs.</b>	:
<b>FEDERAL HOME LOAN MORTGAGE</b>	:
<b>CORPORATION, a/k/a FREDDIE MAC,</b>	:
<b>RICHARD F. SYRON, PATRICIA L.</b>	:
<b>COOK, ANTHONY S. PISZEL, and</b>	:
<b>EUGENE M. McQUADE,</b>	:
<b>Defendants.</b>	:

DECLARATION OF

PROFESSOR STEVEN P. FEINSTEIN, PH.D., CFA

December 16, 2016

I, Steven P. Feinstein, declare:

**I. Scope of Engagement and Declaration**

1. I was asked by Strauss Troy Co., LPA, counsel for the Class Plaintiffs, to explain if there have been substantial changes since August 2012 in financial economic analytic methodologies applied in class action securities litigation by economic experts at the pre-class certification stage, and if so, what those changes have been. In particular, I was asked what additional topic coverage would typically be addressed now, that was not addressed in the Expert Report of Dr. Greg Hallman at the time it was submitted in this matter, August 16, 2012, and what, if any, differences there would be in the methodologies investigating the efficiency of the market for Freddie Mac stock currently, as compared to when Dr. Hallman submitted his report in August 2012. I have also been asked, if permitted by the Court, to undertake the work necessary to provide a report and opinion on market efficiency.

**II. Credentials**

2. I am an Associate Professor of Finance at Babson College, and the founder and president of Crowninshield Financial Research, Inc., a financial economics consulting firm.
3. I hold a Ph.D. in Economics from Yale University, a Master of Philosophy degree in Economics from Yale University, a Master of Arts in Economics from Yale University, and a Bachelor of Arts degree in Economics from Pomona College. I also hold the Chartered Financial Analyst (“CFA”) designation, granted by the CFA Institute.
4. At Babson College, I have taught undergraduate and MBA level courses in Capital Markets, Investments, Equity Analysis, Fixed Income Analysis, Financial Management, Risk Management, Quantitative Methods, and Security Valuation. I have also taught executive courses on investments and corporate financial management for numerous corporations. Other courses I have taught are listed in my curriculum vitae, which is attached as Exhibit-1.

5. At Babson College, I have held the Chair in Applied Investments and served as the Director of the Stephen D. Cutler Investment Management Center, a research and education center dedicated to the study and teaching of investments and capital markets.
6. Prior to my joining the faculty at Babson College, I taught finance at Boston University. Previously, I was an Economist at the Federal Reserve Bank of Atlanta where my primary responsibilities were to monitor financial markets, analyze proposed regulation, and advise the Bank President in preparation for his participation in meetings of the Federal Open Market Committee – the government body responsible for monetary policy in the United States.
7. I have published in the field of finance. My finance articles have appeared in the *Atlanta Federal Reserve Bank Economic Review*, *Derivatives Quarterly*, *Derivatives Weekly*, *The Engineering Economist*, *The Journal of Risk*, *The American Bankruptcy Institute Journal*, *The Journal of Financial Planning*, *The Journal of Forensic Economics*, *Managerial Finance*, *Risk Management*, and *Primus*. I am the author of *Finance and Accounting for Project Management*, published by the American Management Association. I wrote two chapters in the book *The Portable MBA in Finance and Accounting* – one on corporate financial planning and the other on risk management. I have presented research at the annual conventions of the American Finance Association, the Academy of Financial Services, the Multinational Finance Society, the Financial Management Association, the Taxpayers Against Fraud Education Fund Conference, and the International Conference on Applied Business Research. Co-authored papers of mine have been presented at the Eastern Finance Association meetings and the Midwestern Finance Association meetings. A list of all the publications I authored in the previous ten years can be found in my curriculum vitae, which is attached as Exhibit-1.
8. I have been selected to review papers for numerous finance journals and conferences, and I have reviewed finance textbook manuscripts for Prentice-Hall, Elsevier, Blackwell, and Southwestern Publishing. I have been quoted on matters relating to finance and investments in *The Wall Street Journal*, *The Washington Post*, *The New York Times*, *The Financial Times*, *The Boston Globe*, and *Bloomberg News*, and my research relating to financial analysis and valuation has been discussed in *The Wall Street Journal*, *Bond Buyer*, and *Grant's Municipal Bond Observer*.

9. I am a member of the American Finance Association, the Financial Management Association, the North American Case Research Association, the National Association of Forensic Economics, the CFA Institute, and the Boston Security Analysts Society, where I have served as a member of the education committee and ethics subcommittee. I served on the Fixed Income Specialization Examination Committee of the CFA Institute.
10. The CFA designation is the premier credential for financial analysts worldwide. In order to receive this credential, applicants must pass a series of three exams covering such topics as economics, equity analysis, financial valuation, business analysis, quantitative methods, investment analysis, portfolio management, risk management, financial accounting, and ethical and professional standards. For over ten years I taught in the Boston University CFA Review Program and the Boston Security Analysts Society CFA Review Program – two of the leading review programs that prepared candidates for the CFA exams. In both of these programs I taught candidates at the most advanced level.
11. In addition to my teaching, research, CFA, and academic community responsibilities, I practice extensively as a financial consultant. Past clients include the United States Securities and Exchange Commission, the Internal Revenue Service, the Attorney General of the State of Illinois, and the National Association of Securities Dealers. As a financial consultant, I have conducted analyses and presented opinions related to markets, valuation, and damages in over 70 cases.
12. Courts have cited, accepted, and relied on my analyses of market efficiency in numerous class action cases, for example, recently in the *Petrobras* securities litigation and *Groupon* securities litigation. *In re: Petrobras Sec. Litig.*, 312 F.R.D. 354, 369 (S.D.N.Y. 2016); *In re Groupon, Inc. Sec. Litig.*, No. 12 C 2450, 2015 WL 1043321, at \*1 (N.D. Ill. Mar. 5, 2015).
13. Exhibit-2 lists my prior testimony appearances over the past four years.
14. I am the sole owner of the consulting firm Crowninshield Financial Research, which receives compensation for the work performed by me and the analysts who assist me on this case. My firm is being compensated at a rate of \$825 per hour for my work. My compensation is neither contingent on my findings nor on the outcome of this matter.

### **III. Opinion and Conclusions**

15. The Supreme Court in the 1988 *Basic v. Levinson* decision stated, “The fraud on the market theory is based on the hypothesis that, in an open and developed securities market, the price of a company’s stock is determined by the available material information regarding the company and its business . . .”<sup>1</sup> Since then, it has been generally held that in order to invoke the fraud on the market principle, plaintiffs had to prove the subject security traded in an efficient market.
16. To test market efficiency, economists have generally examined the market characteristics cited by the courts in *Cammer v. Bloom*, 711 F. Supp. 1264, 1273 (D.N.J. 1989) (“*Cammer*”), the Fifth Circuit Court of Appeals in *Unger v. Amedisys*, 401 F.3d 316 (5th Cir. 2005) (“*Unger*”), and the district court in *Krogman v. Sterritt*, 202 F.R.D. 467 (N.D.Tex. 2001) (“*Krogman*”). One of the *Cammer* factors is empirical evidence, and for this factor economists have generally conducted event studies. An event study is the preeminent empirical test of market efficiency, as renowned financial economist and Nobel laureate Eugene Fama attested:

“The cleanest evidence on market-efficiency comes from event studies, especially event studies on daily returns. When an information event can be dated precisely and the event has a large effect on prices, the way one abstracts from expected returns to measure abnormal daily returns is a second-order consideration. As a result, event studies give a clear picture of the speed of adjustment of prices to information.”

“Efficient Capital Markets: II,” by Eugene F. Fama, *Journal of Finance*, 1991, p. 1607.

17. Dr. Hallman conducted an event study on Freddie Mac stock and presented the results in his August 2012 report.
18. However, at least three things have changed since August 2012. First, as financial economist and Duke University finance professor Alon Brav explained in a 2015 *Washington University Law Review* article,<sup>2</sup> it has become increasingly apparent that in some cases event study tests have low power, meaning that an event study test may fail to

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<sup>1</sup> *Basic v. Levinson*, 485 U.S. 224, 243,108 S. Ct. 978, 988-89, 99 L. Ed. 2d 194 (1988).

<sup>2</sup> “Event Studies in Securities Litigation: Low Power, Confounding Effects, And Bias,” by Alon Brav and J.B. Heaton, *Washington University Law Review*, 30 March 2015.

indicate market efficiency even when the market is indeed efficient. When the standard event test has low power, augmenting the event study test with additional empirical tests is indicated.

19. Second, in 2014 the Supreme Court in its *Halliburton II* decision clarified that perfect market efficiency is not necessary in order to invoke the fraud on the market principal, and therefore need not be proved. Rather, what is necessary is the “fairly modest premise that ‘market professionals generally consider most publicly announced material statements about companies, thereby affecting stock market prices.’”<sup>3</sup>
20. Moreover, the Court made clear in its elaboration that it is informational efficiency rather than fundamental efficiency that is most relevant to a securities case. Informational efficiency addresses whether security prices reflect and are therefore affected by available information, whereas fundamental efficiency means that a security price conforms at all times to the valuations determined by a particular pricing model. The *Halliburton II* decision described the distinction thusly:

“Even the foremost critics of the efficient-capital-markets hypothesis acknowledge that public information generally affects stock prices. ... Debates about the precise *degree* to which stock prices accurately reflect public information are thus largely beside the point. ‘That the . . . price [of a stock] may be inaccurate does not detract from the fact that false statements affect it, and cause loss,’ which is ‘all that *Basic* requires.’”  
*Halliburton Co. v. Erica P. John Fund, Inc.*, 134 S. Ct. 2398, 2410, 189 L. Ed. 339 (2014) (emphasis in original).

21. The recognition that standard event studies sometimes fail to prove market efficiency when the market is indeed efficient, and the Supreme Court’s clarification that a more limited degree of market efficiency is sufficient to establish reliance in a class action securities case beckoned the application of new empirical tests that could show whether market participants considered available information, and whether available information affected market prices. Accordingly, new empirical tests of the connection between information flow and stock price movements have been created and applied in securities

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<sup>3</sup> *Halliburton Co. v. Erica P. John Fund, Inc.*, 134 S. Ct. 2398, 2403, 189 L. Ed. 339 (2014) (“*Halliburton II*”), citing *Basic*, 485 U.S. at 248 n. 28.

cases. Very recently, these tests have been gaining more widespread use and acceptance by courts.

22. One such test is a Z-test that collectively compares the differential incidence of significant stock price movements across two groups of dates, where one group comprises dates with high information flow and the second group is composed of dates with less information flow.<sup>4</sup> While this test was first proposed in a 2004 article (Ferrillo, et al., 2004),<sup>5</sup> it only recently has been gaining acceptance and widespread use, and is further elaborated upon in a study released in August 2016.<sup>6</sup> Similar tests were supported and explained by a group of eight testifying finance experts, including myself, who wrote an Amici Curiae brief for *Halliburton II*.<sup>7</sup> I personally conducted this test in my analysis of market efficiency in the *Petrobras* case, and the Court accepted and relied upon my analysis and conclusions derived from this test.<sup>8</sup>
23. Similar collective tests include the Ansari-Bradley test, F-test, and Binomial test, each of which are appropriate in certain cases, and can be used to investigate whether available information affects observed stock prices, which is the relevant element of market efficiency for the fraud on the market principle.
24. Research on this new class of collective tests, the *Halliburton II* decision that provides justification for these tests, growing use of these tests by testifying experts, and various court's acceptance of these tests generally post-dates Dr. Hallman's August 2012 submission in the current case.

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<sup>4</sup> See, e.g., *Reference Manual on Scientific Evidence*, 3rd ed. (Washington: The National Academies Press, 2011), pp. 591-597; *Statistics for Business and Economics*, by David R. Anderson, et al., 2<sup>nd</sup> edition, West Publishing, 1984, chapter 10; *Statistical Techniques in Business and Economics*, by Robert D. Mason, et al., 10<sup>th</sup> edition, Irwin McGraw-Hill, 1999, chapter 9; *Applied Statistics For Public Policy*, by Brian P. Macfie and Philip M. Nufrio, M.E. Sharpe, 2006, chapter 13; and *Probability and Statistics for Engineering and the Sciences*, by Jay Devore, 9<sup>th</sup> edition, Cengage Learning, 2016, chapter 9.

<sup>5</sup> "The 'Less Than' Efficient Capital Markets Hypothesis: Requiring More Proof From Plaintiffs in Fraud-On-The-Market Cases," Paul Ferrillo, et al., *St. John's Law Review* 78 (81), Winter 2004, pp. 120-121.

<sup>6</sup> "What Should We Expect When Testing for Price Response to News in Securities Litigation?" by Dr. David I. Tabak, NERA, working paper, August 2016.

<sup>7</sup> Brief of Testifying Economists as Amici Curiae in Support of Respondent, *Halliburton Co. and David Lesar v. Erica P. John Fund, Inc., FKA Archdiocese of Milwaukee Supporting Fund, Inc.*, February 5, 2014, p. 10.

<sup>8</sup> *In re: Petrobras Sec. Litig.*, 312 F.R.D. 354, 369 (S.D.N.Y. 2016).

25. In addition, following Dr. Hallman's August 2012 submission, the Supreme Court issued its decision in *Comcast Corp. v. Behrend* in October 2012. Following the Court's decision in *Comcast*, it has been generally expected that expert analysis submitted in support of class certification include a discussion of how, if possible, damages in a class action securities case can be computed on a consistent basis for all proposed class members. Dr. Hallman's report omits this discussion.
26. I have been advised by Counsel for Class Plaintiffs that Dr. Hallman is no longer available to act as an expert witness in this case, and they are requesting that the Court allow me to provide expert testimony on market efficiency going forward.
27. I have cursorily reviewed Dr. Hallman's report and his event study, and generally support his methodology and conclusions. Even though there is general consensus in the profession about how an event study should be conducted, in practice there are areas in the implementation that call for a degree of judgment. On account of certain reasonable differences of opinion regarding the exact implementation of an event study, it is unlikely that any two economists would conduct an event study in exactly the same manner. For example, there may be differences in the choice of peer group or even on whether it is necessary to include a peer group factor in the event study regression. The choice of the events to test often raises differences of opinion. Events that one would reasonably expect to elicit significant stock price reactions are ideal candidates for inclusion in a market efficiency event study, but there could be disagreement among economists, just as there often is among investors, about the proper valuation impact of certain news.
28. On account of these considerations, if permitted by the Court to provide a report and opinion on market efficiency, I would prefer to conduct my own event study, so that I may apply the methodology in the manner I usually do. I would also wish to employ additional econometric tests, as appropriately indicated by the facts of this case. I would also opine on the ability to determine damages in this case on a class-wide basis.

#### **IV. Summary**

29. In the years subsequent to Dr. Hallman's submissions in the instant case, substantial developments have occurred in the legal, academic, and practitioner arenas concerning what needs to be proved regarding market efficiency, including what tests are therefore

appropriate, and how damages could be computed on a consistent basis for all proposed class members. Dr. Hallman's submissions in the current case omits some of what would now be considered important and relevant analyses at the class certification stage.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct based on the information available to me as of the date of this declaration. Executed this 16<sup>th</sup> day of December, 2016.



STEVEN P. FEINSTEIN, PH.D., CFA

**Exhibit-1**  
**Curriculum Vitae**  
**Steven P. Feinstein, Ph.D., CFA**

Babson College  
Finance Division  
Babson Park, MA 02457  
781-239-5275  
Feinstein@Babson.edu

**EDUCATION**

- 1989 YALE UNIVERSITY  
Ph.D. in Economics (Concentration in Finance)
- 1986 YALE UNIVERSITY  
M.Phil. in Economics
- 1983 YALE UNIVERSITY  
M.A. in Economics
- 1981 POMONA COLLEGE  
B.A. in Economics (Phi Beta Kappa, *cum laude*)

**TEACHING EXPERIENCE**

- 1996 - present      BABSON COLLEGE  
Babson Park, MA  
Full-time Faculty, Finance Division  
Associate Professor (2000-present)  
Donald P. Babson Chair in Applied Investments (2002-2010)  
Faculty Director of the Babson College Fund (2002-2009)  
Director of the Stephen D. Cutler Investment Management Center  
(2002-2007)  
Assistant Professor (1996-2000)
- 1990 - 1995      BOSTON UNIVERSITY SCHOOL OF MANAGEMENT  
Boston, MA  
Full-time Faculty, Department of Finance
- 1993 - 1994      WASHINGTON UNIVERSITY, OLIN SCHOOL OF BUSINESS  
St. Louis, MO  
Visiting Assistant Professor, Department of Finance

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**Steven P. Feinstein, Ph.D., CFA**

**BUSINESS EXPERIENCE**

2008 - present	CROWNINSHIELD FINANCIAL RESEARCH, INC. Wellesley, MA President and Senior Expert
1996 - 2008	THE MICHEL-SHAKED GROUP Boston, MA Senior Expert (2001 - 2008) Affiliated Expert (1996 - 2001)
1987 - 1990	FEDERAL RESERVE BANK OF ATLANTA Economist

**PROFESSIONAL DESIGNATIONS**

1998 Awarded the Chartered Financial Analyst designation by the Association for Investment Management and Research.

**RESEARCH AWARDS**

1999 Greater Boston Real Estate Board/Real Estate Finance Association – Research Grant and Featured Speaker at Real Estate Finance Association Meetings.

**PAPERS AND PUBLICATIONS**

“Underestimation of Securities Fraud Aggregate Damages Due to Inter-Fund Trades.” (with Gang Hu, Mark Marcus, and Zann Ali) *Journal of Forensic Economics*, September 2013, Vol. 24, No. 2, 161-173.

“Lehman Equity Research Tipping: Evidence in the Stock Price Data,” Working paper, March 2010. Cited in *New York Times* May 19, 2012, and made available on the *New York Times* website.

“Distortion in Corporate Valuation: Implications of Capital Structure Changes” (with Allen Michel and Jacob Oded) *Managerial Finance*, 2011, Vol. 37(8), 681-696.

“Market Signals of Investment Unsuitability” (with Alexander Liss and Steven Achatz) Law360.com, June 3, 2010. Available from <http://www.law360.com/articles/170690>.

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**Curriculum Vitae**  
**Steven P. Feinstein, Ph.D., CFA**

“Planning Capital Expenditure,” in *The Portable MBA in Financing and Accounting*, J. L. Livingstone and T. Grossman, editors, New York: Wiley, 3<sup>rd</sup> edition 2001, and 4<sup>th</sup> edition 2009.

“Financial Management of Risks,” in *The Portable MBA in Financing and Accounting*, J. L. Livingstone and T. Grossman, editors, New York: Wiley, 2<sup>nd</sup> edition 1997, 3<sup>rd</sup> edition 2001, and 4<sup>th</sup> edition 2009.

“Fraud-on-the-Market Theory: Is a Market Efficient?” (with Allen Michel and Israel Shaked) *American Bankruptcy Institute Journal*, May 2005.

“Valuation of Credit Guarantees” (with Allen J. Michel and Israel Shaked). *Journal of Forensic Economics* 17(1), pp. 17-37, 2005.

“A Better Understanding of why NPV Undervalues Managerial Flexibility,” (with Diane Lander) in *The Engineering Economist*, 2002, Volume 47, Number 4.

“Teaching the Strong-Form Efficient Market Hypothesis: A Classroom Experiment,” *Journal of Financial Education*, fall 2000.

*A Future for Real Estate Futures: Potential Applications of Derivatives in Real Estate Investment and Finance* (with Linda Stoller). Monograph. Boston: Real Estate Finance Association / Greater Boston Real Estate Board, May 2000.

“The Risk Budget: Using Your Human Resources,” (with John Marthinsen and John Edmunds) *Risk Management*, April 2000.

“Scenario Learning: A Powerful Tool for the 21<sup>st</sup> Century Planner,” (with Jeffrey Ellis and Dennis Stearns) *The Journal of Financial Planning*, April 2000.

“Protecting Future Product Liability Claimants in the Case of Bankruptcy,” (with Allen Michel and Israel Shaked) *American Bankruptcy Institute Journal*, January 2000.

“Measuring Risk with the Bodie Put When Stocks Exhibit Mean Reversion,” *The Journal of Risk*, Vol. 1, No. 3, 1999.

“Just-in-Time Mathematics: Integrating the Teaching of Finance Theory and Mathematics,” (with Gordon Prichett) *Primus*, Vol. IX, No. 2, June 1999.

*Atlanta Park Medical Center v. Hamlin Asset Management*. (with Natalie Taylor). Babson Case Collection, Harvard Business School Press, 1998.

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**Curriculum Vitae**  
**Steven P. Feinstein, Ph.D., CFA**

“Dealing with Delta,” *Derivatives Week*, VII, No. 44, November 2, 1998.

“Expected Return in Option Pricing: A Non-Mathematical Explanation,” *Derivatives Week*, VII, No. 35, August 31, 1998.

“When Hedges Fail: The Put Paradox and its Solution,” *Derivatives Quarterly*, Vol. 4, No. 2, Winter 1997.

*Finance and Accounting for Project Management*. New York: American Management Association, 1996.

“International Investing,” in *Irwin’s Directory of Emerging Market Brokerages*. New York: Irwin, 1996.

“The Hull and White Implied Volatility.” Boston University Working Paper #92-51, 1992.

“Immunizing Against Interest Rate Risk Using the Macaulay Duration Statistic: An Assessment,” (with Don Smith) in *Financial Systems and Risk Management*, the proceedings of the US-Japan Forum on Financial Strategy in the 1990s, sponsored by Osaka Foundation of International Exchange and Boston University, August 1991.

“Covered Call Options: A Proposal to Ease LDC Debt,” (with Peter Abken) *Federal Reserve Bank of Atlanta Economic Review*, March/April 1990. Reprinted in *Financial Derivatives: New Instruments and Their Uses*. Atlanta: Federal Reserve Bank.

“Forecasting Stock-Market Volatility Using Options on Index Futures,” *Federal Reserve Bank of Atlanta Economic Review*, May/June 1989. Reprinted in *Financial Derivatives: New Instruments and Their Uses*. Atlanta: Federal Reserve Bank.

“The Black-Scholes Formula is Nearly Linear in Sigma for At-the-Money Options; Therefore Implied Volatilities from At-the-Money Options are Virtually Unbiased.” Federal Reserve Bank of Atlanta Working Paper #88-9, December 1988.

“The Effect of the ‘Triple Witching Hour’ on Stock Market Volatility,” (with William Goetzmann) *Federal Reserve Bank of Atlanta Economic Review*, September/October 1988. Reprinted in *Financial Derivatives: New Instruments and Their Uses*. Atlanta: Federal Reserve Bank.

“Stock Market Volatility,” *Federal Reserve Bank of Atlanta Economic Review*, November/December 1987.

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**Curriculum Vitae**  
**Steven P. Feinstein, Ph.D., CFA**

Book review of *In Who's Interest: International Banking and American Foreign Policy*, by Benjamin J. Cohen, Yale University Press, in *Federal Reserve Bank Of Atlanta Economic Review*, Summer 1987.

## **PRESENTATIONS**

“Determining the Defendant's Ability to Pay,” at Taxpayers Against Fraud Education Fund Conference, October 2010.

“The Computation of Damages in Securities Fraud Cases,” at the Grant and Eisenhofer Institutional Investor Conference, December 2002.

“The Role of the Financial Expert in Complex Litigation,” at the Financial Management Association Conference, October 2000.

“Entrepreneurial Incentives and Resource Allocation Among Corporate Venturing Initiatives,” (with Joel Shulman and U. Srinivasa Rangan), Babson Entrepreneurship Research Conference, May 2000.

“Application of Real Options in Purchasing Strategies,” (with Juan Orozco), presented at the International Applied Business Research Conference, March 2000.

“A Future for Real Estate Futures,” (with Linda Stoller) at the Fairfield County chapter of the Real Estate Finance Association, November 1999, and at the Greater Boston Real Estate Board, November 2000.

“Atlanta Park Medical Center v. Hamlin Asset Management,” (with Natalie Taylor) at the 1999 convention of the North American Case Research Association.

“Using Future Worlds™ in the Financial Planning Process,” (with Jeffrey Ellis) at the Institute of Certified Financial Planners Masters Retreat, October 1999.

“Toward a Better Understanding of Real Options: A Weighted Average Discount Rate Approach,” at the 1999 Financial Management Association Conference, the 1999 European Financial Management Association Conference, and the 1999 Multinational Finance Society Conference.

“Just-In-Time Mathematics: Integrating the Teaching of Finance Theory and Mathematics,” (with Gordon Prichett) at the 1999 Financial Management Association Conference.

“Alternative Dow Investments for the Individual Investor: Diamonds, Synthetics, and the Real Thing,” at the 1999 Academy of Financial Services Convention.

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**Steven P. Feinstein, Ph.D., CFA**

“Evidence of Yield Burning in Municipal Refundings” at Financial Management Association Convention, October 1997; Government Finance Officers Association, 1997; and Northeast Regional Convention of the National Association of State Treasurers, 1997.

“Teaching the Strong-Form Efficient Market Hypothesis” at Conference on Classroom Experiments in the Teaching of Economics at University of Virginia, September 1995.

“Efficient Consolidation of Implied Standard Deviations,” (with Shaikh Hamid) at Midwest Finance Association, March 1995.

“A Test of Intertemporal Averaging of Implied Volatilities,” (with Shaikh Hamid) at Eastern Finance Association, April 1995.

“Taking Advantage of Volatility: Non-linear Forecasting and Options Strategies,” (with Hassan Ahmed) at Chicago Board of Trade / Chicago Board Options Exchange Conference on Risk Management, February 1992.

“Immunizing Against Interest Rate Risk Using the Macaulay Duration Statistic: An Assessment,” (with Don Smith) at Japan-U.S. Conference on Financial Strategies in the 1990s, Osaka, Japan, August 1991.

“The Hull and White Implied Volatility,” at American Finance Association Convention, December 1990.

**REVIEWED ARTICLES AND BOOKS FOR:**

Harvard Business School Publishing  
Elsevier  
Journal of Economic Education  
Journal of Forensic Economics  
Journal of Risk  
Financial Review  
North American Case Research Association  
Financial Management  
Journal of Business  
Journal of Money, Credit and Banking  
Quarterly Review of Economics and Finance  
Blackwell  
Prentice Hall  
Southwestern Publishing

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**Curriculum Vitae**  
**Steven P. Feinstein, Ph.D., CFA**

## COURSES TAUGHT

Capital Markets

Mod B: Decision Making and Applications, Finance stream (MBA)

Financial Reporting and Corporate Finance (MBA)

Valuation (MBA)

Investments (MBA and Executive)

Equity Markets (MBA)

Fixed Income Analysis (Undergraduate and MBA)

Babson College Fund (Undergraduate and MBA)

Options and Futures (Undergraduate)

Advanced Derivative Securities (MBA)

Corporate Finance (MBA and Executive)

Financial Management (MBA)

Risk Management (MBA)

Corporate Financial Strategy (MBA)

Integrated Management (Undergraduate)

Cross-Functional Management (Integrated curriculum, Undergraduate)

Continuous-Time Finance (Doctoral)

Portfolio Theory / Management Information Systems (Executive)

Quantitative Methods for Investment Management (Undergraduate and MBA)

Introduction to Derivative Securities (Executive)

International Finance (Executive)

## TEACHING AWARDS

Reid Teaching Award, Washington University, Olin School of Business, 1993-94.

## SELECT LIST OF MEDIA CITATIONS

“Is Insider Trading Part of the Fabric?” by Gretchen Morgenson, *The New York Times*, May 19, 2012.

“Bankers Rigging Municipal Contract Bids Admit to Cover-Up Lies,” by William Selway and Martin Z. Braun, *Bloomberg Markets Magazine*, November 24, 2010.

“Hospital Move Presents Buy-Out Groups with New Risks,” by Francesco Guerra, Christopher Bowe, and Rebecca Knight, *Financial Times*, July 15, 2006.

“Funds of Knowledge Add Value,” by Rebecca Knight, *Financial Times*, March 12, 2006.

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**Curriculum Vitae**  
**Steven P. Feinstein, Ph.D., CFA**

“City’s Financial Picture Worse Than Ever, Sanders Says,” by Matthew T. Hall, *San Diego Union-Tribune*, January 7, 2006.

“Downer: Stock Market Takes Another Dive,” by John Chesto, *Boston Herald*, July 23, 2002.

“Banks, Developers, Are Main Beneficiaries,” [editorial column] by Steven Feinstein, *The Boston Globe*, March 31, 2002, p. C4.

“Washington Investing: What Michael Saylor is Really Worth,” by Jerry Knight, *The Washington Post*, March 6, 2000.

“IBM Retools Pensions,” by Stephanie Armour, *USA Today*, May 4, 1999.

“L.A. MTA’s Law Firm Says Lissack Strategy Will be a Replay,” by Andrea Figler, *Bond Buyer*, September 30, 1998.

“Fed Key Player in Rescue of Floundering Hedge Fund,” by Andrew Fraser, Associated Press, September 25, 1998.

“Top Banks Plan Bailout for Fund,” by Andrew Fraser, Associated Press, September 24, 1998.

“Clarion Call to the Small Investor,” by Jo-Ann Johnston, *The Boston Globe*, March 4, 1998.

“L.A. Authority Study Shows Rampant Yield Burning Abuse,” by Michael Stanton, *The Bond Buyer*, April 22, 1997.

“Dispute Over Yield Burning Dominates GFOA Session,” by Michael Stanton, *The Bond Buyer*, January 29, 1997.

“Men Behaving Badly (Yield Burning),” *Grants Municipal Bond Observer*, January 24, 1997.

“Municipal Bond Dealers Face Scrutiny,” by Peter Truell, *The New York Times*, December 17, 1996.

“Iowa Market Takes Stock of Presidential Candidates,” by Stanley W. Angrist, *The Wall Street Journal*, August 28, 1995.

“Looking for Clues in Options Prices,” by Sylvia Nasar, *The New York Times*, July 18, 1991.

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**Curriculum Vitae**  
**Steven P. Feinstein, Ph.D., CFA**

“For Fed, A New Set of Tea Leaves,” by Sylvia Nasar, *The New York Times*, July 5, 1991.

**MEMBERSHIP IN PROFESSIONAL SOCIETIES**

American Finance Association  
Boston Security Analysts Society  
Chartered Financial Analyst Institute  
Financial Management Association  
Foundation for Advancement of Research in Financial Economics (founding member)  
National Association of Forensic Economics  
North American Case Research Association

**Exhibit-2**  
**Steven P. Feinstein, Ph.D., CFA**  
**Testimony in the Last Four Years**

Carlos Munoz, et al. vs. China Expert Technology, Inc.; PKF New York, Certified Public Accountants, A Professional Corporation; PKF Hong Kong, Certified Public Accountants; And BDO McCade Lo Limited Certified Public Accountants  
United States District Court  
Southern District of New York  
Civil Action no. 07-cv-10531 (AKH)  
Deposition Testimony  
March 2013

In Re American International Group, Inc. 2008 Securities Litigation  
United States District Court  
Southern District of New York  
Civil Action no. 08-CV-4772-LTS  
Deposition Testimony  
July 2011 and February 2012  
Testimony at Evidentiary Hearing  
April 2013 and May 2013

Christopher Cohan, et al., vs. KPMG LLP  
Court of Fulton County  
State of Georgia  
Civil Action no. 12EV0114325G  
June 2013

Landmen Partners Inc. et al. vs. The Blackstone Group L.P., et al.  
United States District Court  
Southern District of New York  
Civil Action no. 08-cv-03601-HB  
Deposition Testimony  
May 2013 and August 2013

Louis Pagnotti, Inc. et al., vs. Deloitte & Touche, LLP,  
In the Court of Common Pleas of Luzerne County  
Case No. 557 C of 2003  
Deposition Testimony  
October 2013

In Re IndyMac Mortgage-Backed Securities Litigation  
Civil Action No. 1:09-cv-04583-LAK  
United States District Court  
Southern District of New York  
Deposition Testimony  
October 2013

**Exhibit-2**  
**Steven P. Feinstein, Ph.D., CFA**  
**Testimony in the Last Four Years**

Anwar, et al., v. Fairfield Greenwich Limited, et al.  
Civil Action No. 09-cv-0118 (VM)  
United States District Court  
Southern District of New York  
Deposition Testimony  
February 2014

In Re Symbol Technologies, Inc. Securities Litigation  
Civil Action No. 05-cv-3923-DRH  
United States District Court  
Eastern District of New York  
Deposition Testimony  
June 2014

In Re Groupon, Inc. Securities Litigation  
Civil Action No. 12-cv-2450  
United States District Court  
Northern District of Illinois  
Deposition Testimony  
February 2014  
Testimony at Evidentiary Hearing  
September 2014

Mary K. Jones, et al., vs. Pfizer Inc., et al.  
United States District Court  
Southern District of New York  
Civil Action no. 10-cv-03864-AKH  
Deposition Testimony  
January 2012 and October 2014

In Re Questcor Pharmaceuticals, Inc. Securities Litigation  
Civil Action No. 12-cv-01623-DMG  
United States District Court  
Central District of California  
Deposition Testimony  
October 2014

In Re Longtop Financial Technologies, Ltd. Securities Litigation  
Civil Action No. 11-cv-3658-SAS  
United States District Court  
Southern District of New York  
Trial Testimony  
November 2014

**Exhibit-2**  
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**Testimony in the Last Four Years**

In Re Delcath Systems, Inc. Securities Litigation  
Civil Action No. 13 Civ. 3116 (LGS)  
United States District Court  
Southern District of New York  
Deposition Testimony  
December 2014

In Re Prudential Financial, Inc. Securities Litigation  
Civil Action No. 2:12-cv-05275-SDW-MCA  
United States District Court  
District of New Jersey  
Deposition Testimony  
January 2015

In Re Walter Energy, Inc. Securities Litigation  
Civil Action No. 2:12-cv-00281-VEH  
United States District Court  
Northern District of Alabama  
Deposition Testimony  
January 2014 and March 2015

In Re CVS Caremark Corporation Securities Litigation  
Civil Action No. 1:09-cv-00554-S-DLM  
United States District Court  
District of Rhode Island  
Deposition Testimony  
March 2015

In Re JPMorgan Chase & Co. Securities Litigation  
Civil Action No. 1:12-cv-03852-GBD  
United States District Court  
Southern District of New York  
Deposition Testimony  
March 2015

In Re Baxter International Inc., et al. Securities Litigation  
Civil Action No. 1:10-cv-06016  
United States District Court  
Northern District of Illinois Eastern Division  
Deposition Testimony  
November 2014 and May 2015

**Exhibit-2**  
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In Re Goldman, Sachs & Co., et al. Securities Litigation  
Civil Action No. 10 Civ. 4429 (MGC)  
United States District Court  
Southern District of New York  
Deposition Testimony  
June 2015

In Re United States of America, et al. v. Frank Kurnik and Pharmerica Corp., et al.  
Case No. 3:11-cv-1464-JFA  
United States District Court  
District South Carolina  
Deposition Testimony  
June 2015

In Re HCA Holdings, Inc., Securities Litigation  
Civil Action No. 3:11-cv-01033  
United States District Court  
Middle District of Tennessee  
Nashville Division  
Deposition Testimony  
June 2015

In Re Claude A. Reese, et al. v. Robert A. Malone, et al.  
Civil Action No. C08-1008 MJP  
United States District Court  
Western District of Washington at Seattle  
Deposition Testimony  
June 2015

In Re Bridgepoint Education, Inc. Securities Litigation  
Civil Action No. 3:12-cv-01737-JM-JLB  
United States District Court  
Southern District of California  
Deposition Testimony  
July 2015

In Re Dana Corporation, et al. Securities Litigation  
Civil Action No. 3:05-cv-07393-JGC  
United States District Court  
Northern District of Ohio  
Deposition Testimony  
June 2015 and August 2015

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**Testimony in the Last Four Years**

In Re Las Vegas Sands Corp. Securities Litigation  
Civil Action No. 2:10-cv-00765-KJD-LRL  
United States District Court  
District of Nevada  
Deposition Testimony  
March 2015 and December 2015

In Re Groupon, Inc. Securities Litigation  
Civil Action No. 12-cv-2450  
United States District Court  
Northern District of Illinois  
Deposition Testimony  
December 2015

In Re: Petrobras Securities Litigation  
Case No. 14-cv-9662 (JSR)  
United States District Court  
Southern District of New York  
Deposition Testimony  
October 2015 and December 2015  
Testimony at Evidentiary Hearing  
December 2015

In Re Symbol Technologies, Inc. Securities Litigation  
Civil Action No. 05-cv-3923-DRH  
United States District Court  
Eastern District of New York  
Deposition Testimony  
January 2016

In Re KBR, Inc. Securities Litigation  
Case No. 4:14-CV-01287  
United States District Court  
Southern District of Texas  
Deposition Testimony  
April 2016

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**Testimony in the Last Four Years**

In Re: Petrobras Securities Litigation

Case No. 15-cv-04226 (JSR)

Case No. 15-cv-03923 (JSR)

Case No. 15-cv-03911 (JSR)

United States District Court

Southern District of New York

Deposition Testimony

June 2016